

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 1-7, 9-19, and 22-24 are pending in this application. Claim 5 was objected to for an informality. Claim 12 was objected to as failing to comply with 37 C.F.R. § 1.75(a). Claims 1, 2, 10, 12-14, 22, and 24 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. patent 5,155,520 to Nagasaki et al. (herein "Nagasaki") in view of U.S. patent 5,365,303 to Yamasaki et al. (herein "Yamasaki"). Claims 3, 4, 6, 11, and 23 were rejected under 35 U.S.C. § 103(a) as unpatentable over Nagasaki in view of Yamasaki and further in view of U.S. patent 5,335,032 to Onuki et al. (herein "Onuki"). Claims 5 and 15 were rejected under 35 U.S.C. § 103(a) as unpatentable over Nagasaki in view of Yamasaki and further in view of U.S. patent 5,331,365 to Miyazawa et al. (herein "Miyazawa"). Claims 7 and 16-19 were rejected under 35 U.S.C. § 103(a) as unpatentable over Nagasaki in view of Yamasaki and further in view of Miyazawa and Onuki. Claim 9 was rejected under 35 U.S.C. § 103(a) as unpatentable over Nagasaki in view of Yamasaki and further in view of Onuki and Miyazawa.

Addressing first the objection to claim 5, claim 5 is amended to address the objection thereto.

Addressing the objection to claim 12, claim 12 is amended to now refer to "rotation angles", to be consistent with claim 1 from which claim 12 depends.

Addressing now the rejection of claims 1, 2, 10, 12-14, 22, and 24 under 35 U.S.C. § 103(a) as unpatentable over Nagasaki in view of Yamasaki, that rejection is traversed by the present response.

Applicants respectfully submit that the outstanding rejection is not properly considering each of the positively recited claim limitations. Applicants also respectfully

submit that the noted combination of teachings of Nagasaki in view of Yamasaki would not have been suggested to one of ordinary skill in the art.

First, applicants note that each of independent claims 1 and 13 positively recite a structure of **both** “a deviation correction device [means]” and “a rotation regulator [means]”. The outstanding Office Action has not properly considered both such elements. The features of the “deviation correction device” and “rotation regulator” recited in each of independent claims 1 and 13 are shown, as non-limiting examples, in Figures 14 and 15 of the present specification.

More specifically, Figure 14 shows the use of a correction lens 122 and Figure 15 shows the use of a vari-angle prism 65, such elements corresponding to the claimed “deviation correction device”. According to the features recited in the claims, each of the correction lens 122 or the vari-angle prism 65 can be repositioned based on calculated rotation angles. Thus, the correction lens 122 and the vari-angle prism 65 can be utilized to compensate for tilting resulting from shaking of a camera.

However, in addition to the above noted repositioning, the claims also set forth rotation of an image pickup device around an optical axis of the camera or an axis in parallel with the optical axis by a “rotation regulator”. Such an element is also shown for example in Figures 14 and 15 with respect to the actuator 57 rotating the CCD 12.

Thus, in the claims **both** an optical element can be positioned **and** an image pickup device can be rotated. Both features in combination are clearly neither taught nor suggested by the applied art.

The outstanding Office Action cites Nagasaki to disclose a rotational displacement detector 11 and an actuator driver 10a to rotate the image pickup element 2 around the optical axis. However, as noted above the claims require additionally a “deviation correction device”.

In addressing such features the outstanding Office Action appears to reference Nagasaki at column 2, lines 18-22. At that portion Nagasaki states the broad proposition of “using an actuator mechanism for displacing at least one of the photographing optical lens and the imaging surface in a direction perpendicular to the optical axis...”.

Such teachings in Nagasaki are deficient with respect to the claimed features in the following aspects. In independent claims 1 and 13 both a positional optical element is provided that can be repositioned and an image pickup device can be rotated. At most Nagasaki discloses movement perpendicular to the optical axis. In claims 1 and 13 both such elements are moved in specific ways that are clearly neither taught nor suggested in Nagasaki. Applicants also note that the outstanding Office Action appears to rely on the actuators 3a-3c and actuator drivers 10a-10c in Nagasaki as meeting the claim limitations. However, those elements clearly are shown in Nagasaki as only moving the image pickup element 2. As a result Nagasaki does not disclose any element that corresponds to the claimed “deviation correction device including a positional optical element configured to be repositioned based on the rotation angles calculated by the calculator”, as also recited in the claims.

Applicants also note that Nagasaki is believed to be deficient in not disclosing an adequate disclosure with respect to such a “deviation correction device”. The embodiments in Nagasaki disclose movement of the image pickup element 2, but do not disclose movement of a positionable optical element. The broad statement in Nagasaki at column 2, lines 18-20 does not teach how to implement any movement of a positional optical element.

Also, as noted above, clearly the noted teachings in Nagasaki at column 2, lines 18-22 do not disclose **both** a repositionable optical element **and** an image pickup device that is rotated around an optical axis of the camera.

In such ways, the teachings in Nagasaki are believed to be clearly deficient with respect to the claimed features.

Nagasaki is also recognized as deficient in not disclosing the use of angular velocity sensors, and to overcome such deficiencies in Nagasaki the outstanding Office Action cites the teachings in Yamasaki. However, applicants submit that such teachings in Yamasaki are not properly applicable to the teachings in Nagasaki.

The entire basis for relying on the teachings of Yamasaki is one broad sentence in Yamasaki that states “another sensor such as an acceleration sensor or an angular velocity sensor may be used to substitute the angle sensor”.¹ At most those teachings in Yamasaki disclose that in the specific device therein the angle sensor can be replaced by an acceleration sensor or an angular velocity sensor. However Nagasaki discloses the use of acceleration sensors x1, x2, x3, y1, and y2 that are used to detect specific displacements at respective positions.² There is no teaching or suggestion in Yamasaki that an angular velocity sensor is an adequate substitute for an acceleration sensor used for sensing displacement such as in Nagasaki.

Stated another way, Nagasaki discloses utilizing the acceleration sensors for specifically detecting a displacement of optical lens system 1 or an image pickup element 2. No teachings at all in Yamasaki would suggest to one of ordinary skill in the art that substituting angular sensors for such acceleration sensors in Nagasaki would still provide an adequate reading of a displacement of an optical system 1 relative to an image pickup device 2, as needed in Nagasaki.

Also, to support utilizing the teachings in Yamasaki in the device of Nagasaki the outstanding Office Action states:

¹ Yamasaki at column 7, lines 54-57.

² Nagasaki at column 4, lines 61-66.

An advantage to using an angular velocity sensor instead of an acceleration sensor is that the calculations of the position of the lens and image sensor may be simplified, which requires fewer computations and therefore a lower hardware cost. For this reason, it would have been obvious at the time of invention to have Nagasaki's camera include angular velocity sensors.³

The above-noted basis for the outstanding rejection is not understood as the noted motivation of fewer computations and lower hardware costs is not believe to be taught or suggested in any of the cited art. It is unclear on what basis the outstanding Office Action has made the determination that substituting angular velocity sensors for the acceleration sensors in Nagasaki would provide such benefits. As noted above, it is not even apparent an angular velocity sensor could operate in the device of Nagasaki as the device of Nagasaki specifically utilizes acceleration sensors to detect displacement of two different elements of the optical lens system 1 and image pickup element 2. Applicants respectfully request that it be clearly indicated on the record where the noted motivation is coming from as it is believed it is only proper if it is indicated in the references. Applicants respectfully submit it is the case that the cited art to Nagasaki and Yamasaki do not suggest the noted motivation, and thus it is unclear on what basis the noted motivation is being cited. Applicants submit no motivation in fact exist to make such a modification, and for such reasons the pending claims even further distinguish over the applied art.

In such ways, applicants respectfully submit that each of the pending claims patentably distinguishes over the combination of teachings of Nagasaki in view of Yamasaki.

Moreover, with respect to the further rejections based on Onuki and Miyazawa, no teachings in Onuki and Miyazawa are believed to overcome the above-noted deficiencies of Nagasaki in view of Yamasaki, and thus the further rejections are also believed to be overcome by the present response.

³ Office Action of December 4, 2003, page 5, third paragraph.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.


Respectfully submitted,

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